Journal of Midwifery & Reproductive Health

JMRH.mums.ac.ir

Evaluating the implementation of Mother-Friendly Hospital Steps in Qazvin, Iran

Azam Ghahremani (MSc)[1], Nezal Azh (PhD)[2], Mahdi Ranjbaran (MSc)[3], Fatemeh Ranjkesh (MSc)[4*]

[1] MSc in Midwifery Counseling, Student Research Committee, Qazvin University of Medical Sciences, Qazvin, Iran
[2] Assistant Professor, School of Nursing and Midwifery, Qazvin University of Medical Sciences, Qazvin, Iran
[3] Lecturer, Department of Epidemiology and Reproductive Health, Reproductive Epidemiology Research Center, Royan Institute for Reproductive Biomedicine, Academic Center for Education, Culture and Research, Tehran, Iran
[4] MSc in Midwifery, School of Nursing and Midwifery, Qazvin University of Medical Sciences, Qazvin, Iran

ARTICLE INFO

Article type:
Original article

Article History:
Received: 07-Dec-2018
Accepted: 20-Ap-2019

Key words:
Mother-Friendly Hospital
Private Hospital
Public Hospital

ABSTRACT

Background & aim: Given the importance of developing mother-friendly hospitals (MFHs) in order to promote normal delivery and respect mothers' rights, the present study was conducted to evauate the implementation of MFH steps in the hospitals of Qazvin, Iran.

Methods: This cross-sectional study was conducted in all Qazvin hospitals (five public and four private hospitals) in Iran in 2017. The standard MFH checklist was used for data collection. The checklist included 10 steps and 110 items related to the places, equipments, facilities, records, hospital statistical data. MFH checklist was completed through observation, assessment of medical records and interview with 210 clients and staff. Expected level of MFH was considered at 80% in all steps. The data were analyzed by SPSS software (version 24).

Results: Two hospitals obtained accepted scores at all steps. However, the achievement rates in steps 1 (i.e., current perinatal care), 3 (i.e., emergency services), 5 (i.e., preparation of labor classes), 7 (i.e., avoiding unnecessary care), 9 (i.e., trained doula), and 10 (neonate-friendly hospital) were 88.43%, 90.90%, 87.14%, 80.25%, 84.16%, and 100%, which were higher than the expected level (80%). In other steps, especially in step 8 (i.e., physiological delivery), the reported rate was very low (39.86%).

Conclusion: In order to obtain the MFH certificate in Qazvin hospitals, it was required to improve the access to specialized midwifery services, employing trained staff to respect clients, and using pharmacological and non-pharmacological methods for labor pain relief to increase the rate of physiological birth.

Please cite this paper as:
Ghahremani A, Azh N, Ranjbaran M, Ranjkesh F. Evaluating the implementation of Mother-Friendly Hospital Steps in Qazvin, Iran. Journal of Midwifery and Reproductive Health. 2019; 7(4): 1956-1963. DOI: 10.22038/jmrh.2019.36306.1394

Introduction

Delivery is a spontaneous process that needs no intervention (1); however, it is considered a disease due to the process of medicalization. Some factors have been identified to contribute to pregnancy and delivery as a disease, including increasing the rate of cesarean section (C-section) in Iran (2) and the world (3, 4), prolonged fasting at hospitals, increasing episiotomy and its complications (5, 6), and prolonged hospitalization (3, 4).

Fearing labor pain and feeling of loneliness during pregnancy are the predictors of labor pain and distress that may increase the risk of emergency C-section and rate of elective C-section. However, C-section is not the solution, and fear may remain over the postpartum period leading to considering labor an unpleasant experience (7). Application of new labor methods, such as Mother-Friendly Hospital Initiative, as well as nonpharmacological and supportive interventions, can make labor

* *Corresponding author:* fatemeh Ranjkesh, MSc in Midwifery, School of Nursing and Midwifery, Qazvin University of Medical Sciences, Qazvin, Iran. Tel: 00989121825021; Email: fatemehranjkesh@yahoo.com

pleasant for mothers, particularly through improving the mental and emotional aspects of childbirth. It could also result in the reduction of elective C-section through relieving pain and fear (8).

The Mother-Friendly Hospital Initiative was developed in 1990s in order to manage the delivery process, promote maternal and neonatal health, reduce treatment costs resulting from increased labor interventions, and increase breastfeeding. As labor is a natural process, the mother-friendly hospital (MFH) was introduced in 1996 (9). Implementation of MFH plan requires a definition of country-specific standards (10). Therefore, the Ministry of Health and Medical Education has developed the following 10-step principles of MFH in Iran (11):

1) Providing routine care during pregnancy, delivery, and postpartum period based on the Ministry of Health and Medical Education's protocols and scientific evidence;
2) Providing specialized midwifery services during delivery and establishing the relationship with the higher and lower levels of healthcare and cross-hospital;
3) Providing healthcare and paraclinical services in emergency midwifery and labor, including blood transfusion, specialized tests, and pediatrician involvement in high-risk delivery;
4) Training staff in the methods of painless labor and nonpharmacological pain relief;
5) Training mothers and families about labor preparation courses, emphasizing on awareness and use of respiratory techniques, relaxation, and musculoskeletal exercises;
6) Providing healthcare based on mothers' religious beliefs and values and respecting mother's privacy;
7) Avoiding routine interventions, including fasting mother, shaving, enema, restricting mother's movement during labor, delivery in lithotomy position, labor induction, intensifying labor contractions, and episiotomy;
8) Performing physiological labor and using pharmacological and nonpharmacological pain relief methods;
9) Presence of trained family member with mother during labor and delivery;
10) Implementation of 10 steps of neonate-friendly hospitals based on the guidelines of the Ministry of Health and Medical Education (11) currently, population policies have been changed in Iran. Increasing the birth rate is one of the important issues in health policies that can be achieved through promoting normal labor, making labor pleasant, and reducing C-section (12). These are considered the most important issues in the Health Evolution Plan. However, the rate of C-section has not dropped to an acceptable level after the development of the Health Evolution Plan (13). As the establishment of MFHs aims at promoting normal labor and respecting mothers' rights, it is necessary to assess MFH steps. This study aimed to determine the MFH steps across the hospitals in Qazvin province, Iran.

Materials and Methods

This descriptive cross-sectional study was conducted in nine hospitals in Qazvin province, Iran, in 2017. All public and private hospitals with gynecology unit (i.e., maternity ward) were included in the present study. Data were collected using the standard MFH checklist. Content validity was confirmed by the Ministry of Health and Medical Education. Reliability of the checklist was reported by Tork Zahrani using correlation test (r=0.855) (14).

The MFH checklist consists of 10 steps and 110 items related to places, equipment, facilities, records, hospital statistical data, as well as interviews with clients and staff. Expected level of MFH was obtained at 80% in all the steps. Ten steps were addressed with the following number of items:

Step 1: 19 items (i.e., providing healthcare before, during, and after labor);
Step 2: 7 items (i.e., access to midwifery services during labor);
Step 3: 11 items (i.e., providing health and paraclinical care in obstetrics and gynecology emergencies);
Step 4: 8 items (i.e., teaching staff about pharmacological and nonpharmacological painless labor),
Step 5: 14 items (i.e., teaching labor preparation to mothers and caregivers);
Step 6: 14 items (i.e., providing services based on religious values and privacy);
Step 7: 12 items (i.e., avoiding routine care);

Step 8: 18 items (i.e., physiologic labor, as well as pharmacological and nonpharmacological pain management);
Step 9: 6 items (i.e., accompanying a trained caregiver with mother during labor);
Step 10: Implementation of 10 steps of neonate-friendly hospitals based on the guidelines of the Ministry of Health and Medical Education (It was determined if the hospital has achieved a neonate-friendly certification, and whether the certification has been shown across the hospital)

In order to assess the above-mentioned steps, the researchers completed the MFH checklist after entering the centers. Completion of the checklist involves the comprehensive assessment of physical space (i.e., the inspection of labor wards, labor preparation classes, as well as obstetrics and gynecology clinics). In addition, 210 interviews were conducted with 90 clients (i.e., 10 clients and their caregivers in different shifts in each hospital), and 30 head staff (i.e., in charge of delivery room, emergency, and postpartum period), and 90 staff of labor wards in different shifts.

To assess the statistical data of the hospitals, 10 random records were evaluated in each hospital controlled by the IMAN[1] net. This was a part of the protocol for the approval of the MFH certificate. In addition, the score of each step was separately calculated. Each item was scored 0-10, and the total score was within the range of 0-1100. The final score (i.e. the rate of MFH) was considered optimal if it was equal to or greater than 80% of the rate established based on the guidelines of the Ministry of Health and Medical Education. The checklist was completed based on the Mother Health Office guidelines.

The collected data were analyzed using SPSS software (version 24) using descriptive statistics, including mean and standard deviation. Given the sample size, the assumption of normal distribution was not fulfilled; therefore, nonparametric Mann-Whitney U test was employed to compare mean values. This study obtained approval from the Ethics Committee of Qazvin University of Medical Sciences (code: IR.QUMS.REC.1396.253), and the researchers gained permission to attend the hospitals. In addition, the authorities of nine hospitals in Qazvin province received necessary documents and explanations.

1 Iranian Maternal and Neonatal Network

Results

Out of nine hospitals, five hospitals were public, and the remaining four hospitals were private. Seven hospitals were at the second level, and the other two hospitals were at the first level and third level. Five hospitals were located in Qazvin, and other four hospitals were across the province.

Two hospitals obtained accepted scores at all steps. Rates of the 10 steps were reported as 90.79%, 78.88%, 89.39%, 68.47%, 77.72%, 71.5%, 78.14%, 43.34%, 80.66%, and 100% for step 1, step 2, step 3, step 4, step 5, step 6, and step 7, step 8, step 9 and step 10 respectively. Moreover, the rate of step 8 reported as 47.34% was undesirable and less than expected (Table 1).

Table1. Percentage of 10 mother-friendly hospital steps at hospitals in Qazvin

No.	Step	Total
1	Step 1	88.43
2	Step 2	83.57
3	Step 3	90.90
4	Step 4	69.06
5	Step 5	87.14
6	Step 6	67.68
7	Step 7	81.04
8	Step 8	39.86
9	Step 9	84.16
10	Step 10	100
	Average	79.18

As shown in Table 1, steps 1, 3, 5, 9, and 10 were above the optimal rate; however, steps 2, 4, 6, 7, and 8 were under the optimal rate.

In terms of hospital type, the results showed that the overall rate of steps was higher in private hospitals, compared to that in public hospitals (80.35 vs 78.56). However, the difference was not statistically significant (P=0.08). Results of the Mann-Whitney U test revealed that the rate of step 6 was significantly higher in private hospitals, compared to that in the public hospitals (P=0.014). Nevertheless, there was no significant difference between the two types of hospitals with regard to other steps (Table 2).

Table 2. Comparison of the rate of mother-friendly hospital steps between public and private hospitals in Qazvin province, Iran

Change source		Availability rate	Z-statistic*	P-value
Step 1	Public (5 hospitals)	89.37	9.00	0.711
	Private (4 hospitals)	91.58		
Step 2	Public (5 hospitals)	79.14	8.50	0.700
	Private (4 hospitals)	83.57		
Step 3	Public (5 hospitals)	92.18	4.00	0.133
	Private (4 hospitals)	85.90		
Step 4	Public (5 hospitals)	71.25	2.50	0.064
	Private (4 hospitals)	65.00		
Step 5	Public (5 hospitals)	86.85	3.50	0.107
	Private (4 hospitals)	77.67		
Step 6	Public (5 hospitals)	61.00	0.000	0.014
	Private (4 hospitals)	84.64		
Step 7	Public (5 hospitals)	75.33	4.00	0.142
	Private (4 hospitals)	81.04		
Step 8	Public (5 hospitals)	47.77	9.00	0.806
	Private (4 hospitals)	39.86		
Step 9	Public (5 hospitals)	82.66	10.00	1.000
	Private (4 hospitals)	84.16		
Step 10	Public (5 hospitals)	100	-	-
	Private (4 hospitals)	100		

*Mann-Whitney U test

In terms of hospital level, the results showed that the second-level hospitals were reported with the highest rate of MFH scores (second-level: 80.25, third-level: 75.62, and first-level: 74.72) (Table 3).

Table 3. Rates of mother-friendly hospital steps according to different hospital levels in Qazvin province, Iran

	level	n	Mean	Standard deviation
Step 1	1	1	85.26	4.61
	2	7	89.17	
	3	1	88.94	
Step 2	1	1	71.42	11.36
	2	7	82.44	
	3	1	61.42	
Step 3	1	1	80.00	10.01
	2	7	89.61	
	3	1	97.27	
Step 4	1	1	56.25	7.82
	2	7	68.57	
	3	1	80.00	
Step 5	1	1	89.28	5.47
	2	7	81.42	
	3	1	85.71	
Step 6	1	1	86.42	15.72
	2	7	74.69	
	3	1	34.28	
Step 7	1	1	84.16	6.91
	2	7	79.76	

	level	n	Mean	Standard deviation
	3	1	52.50	
	1	1	27.77	
Step 8	2	7	45.95	9.93
	3	1	79.44	
	1	1	66.66	
Step 9	2	7	90.95	9.80
	3	1	76.66	
	1	1	100.00	
Step 10	2	7	100.00	0.00
	3	1	100.00	

Discussion

The obtained results indicated that two hospitals had accepted scores at all the steps. However, the achievement rates in steps 1 (i.e., current perinatal care), 3 (i.e., emergency services), 5 (i.e., preparation of labor classes), 7 (i.e., avoiding unnecessary care), 9 (i.e. trained doula), and 10 (i.e., neonate-friendly hospital) were reported as 88.43%, 90.90%, 87.14%, 84.16%, 80.25%, and 100%, which were higher than the expected level (80%). In other steps, especially in step 8 (i.e., physiological delivery), the reported rate was very low (39.86%).

In a study conducted by Zahrani et al. (2012) on the selected hospitals in the western provinces of Iran, it was observed that the rate of MFH steps was within the range of 54.23-85%. Investigation of selected public hospitals in the western provinces, Hamadan and Kermanshah, Iran, showed the optimal rate. Step 6 was reported with the highest rate, and the lowest rate was achieved for step 10 (14). Furthermore, in a study performed by Khamene (2017) in Tehran province, Iran, very low rates were reported (29.87 and 18.08) (15). These results ed that the rate of MFH steps varies according to the type of hospital and hospital location indicating that various socioeconomic and cultural factors could affect the community.

Results of the present study showed that the rates of MFH in some steps (i.e., 2, 4, and 6) in public hospitals were lower than those in private hospitals. As a result, two private hospitals (out of four hospitals) in Qazvin province were candidates for the MFH certification in 2017. Although no study has compared public and private hospitals based on the MFH indicators,

Jalili Ball et al. (2015) observed that private hospitals show better team working than public hospitals (16).

Moreover, in a study carried out by Fazaeli in Mashhad, Iran, it was shown that people with lower income generally approach public hospitals; however, individuals with higher income choose private centers due to accountability and better access to healthcare and physicians (17). It seems that there is no connection between such issues and MFH steps. Since some of the MFH checklist items were asked from clients, they reflect their tendencies in some cases.

According to the results of the present study, public hospitals were reported with the lowest rate in step 6 (61%), compared to private hospitals, which reached the highest rate (84.64%). Private hospitals can provide better services and value clients' beliefs, since they admit a lower number of clients, and their clients are homogenous in terms of socioeconomic conditions. This issue confirms client preference to choose private hospitals, which was reflected in studies conducted by Fazaeli (16) and Jalili (18).

Pant et al. (2018) announced that the level of satisfaction with the questionnaire in postpartum mothers in MFHs is higher than 89%. They believed that personnel's proper understanding of women needs and desires during labor results in their satisfaction at the postpartum period (19). It seems that Iranian hospitals should make more effort in this regard.

Results of the present study showed that the rates of MFH steps in two hospitals at the first and third levels were lower than those of the seven hospitals at the second-level. Contradictory results were obtained in a study

conducted by Khamene (2017) in Tehran. There was no significant relationship between hospital level and rate of MFH; therefore, Firouzgar, Firoozabadi, and Akbar Abadi hospitals as third-level hospitals were different in terms of MFH indices.

The above-mentioned difference was also observed with regard to the first- and second-level hospitals. For example, Firouzgar hospital, as a third-level hospital, achieved the highest rate in mother-friendly indices (29.86%), and Shohadai-i-ye Yaft-Abad hospital (i.e., first-level) was reported with the lowest rate (18.08%) (15). Cultural and socioeconomic differences among the investigated hospitals can be one of the main reasons for contradiction.

Rate of step 8 (<50%) was lower than those in the first- and second-level hospitals; however, it was 70% in the third-level hospital. Rates of step 8 were reported by Zahrani et al. (2014) as 70%, 60%, 50%, and 40% in Hamedan, Kermanshah, Sanandaj, and Saghez, respectively (14). In a study conducted by Macvandi et al. (2018) on two MFHs in Ahwaz, it was demonstrated that physiological labor in an MFH makes the first (i.e., active phase) and second phases shorter (20). Kry (2018) reported that physiological labor enhances maternal self-confidence and changes mother view regarding labor. It is essential to conduct further studies in order to identify cultural differences in terms of self-confidence and physiological labor across various cultures (21).

In a study carried out by Jafari et al. (2017), it was shown that physiological delivery relieves pain and enhances maternal self-control, as well as satisfaction with labor and hospital (22). Kennedy et al. (2015) reported that physiological labor should be used as a pattern for future education, training, and research in maternal care. In order to fill the gap, a project was proposed for the promotion of systemic changes to support physiological labor that results in better outcomes for mothers and infants (23).

All aforementioned studies emphasize the importance and necessity of physiological labor. Given the Health Evolution Plan, national population policy, and promotion of normal labor, it seems that performing physiological labor and using painless labor methods are still great challenges, which require more effort, especially in first- and second-level hospitals. Increasing the rates of physiological labor and nonpharmacological pain-relief methods requires teamwork of gynecologists, midwives, anesthetists, and pediatricians.

One of the strengths of this study was the assessment of MFH steps in all hospitals (i.e., public, private, and teaching) at the regional level that resulted in the identification of existing challenges. Step 8 was the most important challenge, which was previously confirmed in other studies. Therefore, authorities at the Mother Health Office in the Ministry of Health and Medical Education should focus on this issue. The most important limitation of the study was the rate of MFH steps at first-, second-, and third-level hospitals. Another limitation was the comparison of teaching and nonteaching hospitals in Qazvin province because there are only one third-level teaching hospital and one first-level nonteaching hospital in Qazvin province.

Conclusion

Obtained results of the present study showed that the rates of MFH steps in the hospitals of Qazvin province were lower than 80%, and step 8 was reported as the least one. Step 8 focuses on performing physiological labor and providing pharmaceutical methods for pain relief and is considered as one of the most important activities of MFHs. It is also related to many interventions, including labor preparation courses, trained family member, staff training, and stopping routine interventions, such as fasting mother (all are carried out in order to promote physiological and natural labor).

Therefore, failure to optimally perform step 8 is one of the major challenges in this regard. Step 8 can be accomplished only by authorities through recruiting experienced and trained midwives to manage physiological labor, as well as training mothers and their family members. Consequently, authorities should establish more effective interactions in collaboration with gynecologists in order to prevent considering the process of labor and delivery a disease.

Findings of this study can be used to improve the status of MFHs and existing challenges. Results of the present study will be

presented to the policymakers of the Qazvin University in order to determine the status and achievement of MHFs and promote the condition of upcoming planning.

Acknowledgements

This article was extracted from a Master's thesis at the Faculty of Nursing and Midwifery in Qazvin University of Medical Sciences (Code: IR.QUMS.REC.1396.253). The authors would like to thank all people who helped conduct this study.

Conflicts of interest

The authors declare no conflicts of interest.

References

1. Bazzaz Sharifirad GH, Fathi Z, Tirani M, Mehaki B. Assessing of pregnant women toward vaginal delivery and cesarean section based on behavioral intention model. Ilam University of Medical Science. 2007; 15(1):19-23.
2. Farhud DD, Kamali MS, Marzban M. Annuality of birth, labor types and sex ratio in Tehran, Iran. Anthropologischer Anzeiger. 1986; 44(2):137-141.
3. Lin HC, Xirasagar S. Institutional factors in cesarean labor rates: policy and research implications. Obstetrics & Gynecology. 2004; 103(1):128-136.
4. Schimmel LM, Schimmel LD, DeJoseph J. Toward lower cesarean birth rates and effective care: five years' outcomes of joint private obstetric practice. Birth. 1997; 24(3):181-187.
5. Kushavar H, Shirinkam R, Sohrabi M. A comparison of hands off versus hands on techniques on perineal trauma during birth in nulliparous women. Journal of Ardabil University of Medical Sciences. 2009; 9(3):235-241.
6. McCandlish R. Perineal trauma: prevention and treatment. The Journal of Midwifery & Women's Health. 2001; 46(6):396-401.
7. Lowe NK. Self-efficacy for labor and childbirth fears in nulliparous pregnant women. Journal of Psychosomatic Obstetrics & Gynecology. 2000; 21(4):219-224.
8. Sehhati Shafai F, Kazemi S. Comparing maternal outcomes in nulliparous women in labor in physiological and conventional labor: a randomized clinical trial. Journal of Mazandaran University of Medical Sciences. 2013; 22(97):122-131.
9. Lothian JA. Introduction: the coalition for improving maternity services. The Journal of Perinatal Education. 2007; 16(Suppl 1):1S.
10. Kassebaum NJ, Barber RM, Bhutta ZA, Dandona L, Gething PW, Hay SI, et al. Global, regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. The Lancet. 2016; 388(10053):1775-1812.
11. Department of the Author (on request) Ministry of Health. Country guidance for obstetrics and gynecology services. Tehran: Medical Education and Training, Family and Population Health Office, Maternal Health Office; 2017.
12. Sadeghi R. Analysis of socio-cultural context of fertility decline in Iran. Journal of. Sociocultural Strategy. 2016; 20(5):217-246.
13. Alinejad M, Sadeghi E, Haji Esmaeilou M, Mohammadi Azerlou N, Alinejad V. Evaluate the factors associated with the choice of cesarean section among pregnant women. Journal of Global Pharma Technology. 2016; 12(8):462-470.
14. Tork Zahrani S, Ghaderkhani G, Baghestani Ar, Emami H. Correlation between manager's leadership style and the implementation process of "mother friendly hospital plan" in selected hospitals in west of country Iran (Kordestan, Hamedan and Kermanshah provinces) in 2012. Advances in Nursing & Midwifery. 2014; 24(84):1-10.
15. Abbasi KF, Hajinabi K, Riahi L. The relationship between clinical leadership competencies of midwives employed in public hospitals of Iran University of Medical Sciences with Mother Friendly Hospitals Indicators. Teb va Tazkieh. 2017; 26(4):323-332.
16. Jalilibal Z, Kianpour M, Jolai F. Assessing the public and private hospital performance based on considering resilience engineering indices: an integrated simulation and decision making approach. Journal of Hospital. 2015; 14(4):9-20.
17. Fazaeli S, Hashemi S, Ebrahimipour H, Banikazemi S, Yousefi M, Valinejadi A. Public or private hospitals: survey of households'

tendencies in some selected areas of Mashhad. Journal of Health Administration. 2016; 18(62):75-85.
18. Jalili S, Aghaei M, Saeid Mahdavi A. Studying the factors for selecting public or private hospitals by non-emergent patients of Ardabil district in 2012. Journal of Ardabil University of Medical Sciences. 2014; 14(4):388-397.
19. Panth A, Kafle P. Maternal satisfaction on labor service among postnatal mothers in a government hospital, Mid-Western Nepal. Obstetrics and Gynecology International. 2018; 2018:4530161.
20. Makvandi S, Mirzaiinajmabadi K, Mirteimoori M, Esmaily H. Effect of normal physiologic childbirth program in mother-friendly hospitals on duration of labor. Electronic Journal of General Medicine. 2018; 15(3):1-6.
21. Neerland CE. Maternal confidence for physiologic childbirth: a concept analysis. Journal of Midwifery & Women's Health. 2018; 63(4):425-435.
22. Jafari E, Mohebbi P, Mazloomzadeh S. Factors related to women's childbirth satisfaction in physiologic and routine childbirth groups. Iranian Journal of Nursing and Midwifery Research. 2017; 22(3):219.
23. Kennedy HP, Cheyney M, Lawlor M, Myers S, Schuiling K, Tanner T. The development of a consensus statement on normal physiologic birth: a modified Delphi study. Journal of Midwifery & Women's Health. 2015; 60(2):140-145.